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Poletti

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[54] **REVERBERATORS FOR USE IN WIDE BAND ASSISTED REVERBERATION SYSTEMS**

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[57] **ABSTRACT**

A multi-channel reverberation system has a substantially constant multi-channel power gain at audio frequencies and comprises multiple signal inputs, one for each input channel, a number of comb filter networks connected to each signal input, each comb filter network including a feed forward stage, a cross-coupling network cross-coupling the comb filters to increase the reverberation echo density, and multiple signal outputs, one for each output channel. Preferably the feed forward stage of each comb filter provides a substantially constant multi-channel power gain at audio frequencies and the cross-coupling matrix is an orthogonal cross-coupling matrix cross-coupling a number of single channel allpass comb filters, positioned immediately before or after the delay lines, to create a multi-channel allpass comb filter with a unitary transfer function matrix at all frequencies.

**3 Claims, 4 Drawing Sheets**

